I. CLAIMS

Claims 1-25 (Canceled).

Claim 26. (Previously presented) A method of treating a condition in a mammal produced by immune system dysfunction that is associated with reduced levels of γ-interferon production, which comprises administering to the mammal the R(-) enantiomer of desmethylselegiline, or a pharmaceutically acceptable acid addition salt thereof, at a daily dose, administered in a single or multiple dosage regimen, of at least about 0.015 mg, calculated on the basis of the free secondary amine, per kg of the mammal's body weight, wherein the administration of the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof leads to an increase in γ-interferon production in the mammal.

Claims 27-33 (Canceled).

Claim 34. (Previously presented) The method of claim 26, wherein said R(-) enantiomer of desmethylselegiline is in a substantially enantiomerically pure state.

Claim 35. (Previously presented) The method of claim 26, wherein the condition produced by immune system dysfunction is caused by infectious disease.

Claim 36. (Previously presented) The method of claim 26, wherein the immune system dysfunction is age-dependent.

Claim 37. (Previously presented) The method of claim 26, wherein the condition produced by immune system dysfunction is AIDS.

Claim 38. (Previously presented) The method of claim 26, wherein the condition produced by immune system dysfunction is cancer.

Claim 39. (Previously presented) The method of claim 26, wherein the condition produced by immune system dysfunction is in response to a vaccine.

Claim 40. (Previously presented) The method of claim 26, wherein the daily dose is between about 0.5 mg/kg and about 1.0 mg/kg.

Claim 41. (Previously presented) The method of claim 26, wherein the daily dose is at least about 1.0 mg/kg.

Claim 42. (Previously presented) The method of claim 26, wherein the mammal is a human.

Claim 43. (Previously presented) A method of treating a condition in a mammal produced by immune system dysfunction caused by cancer chemotherapy which is associated with reduced levels of γ-interferon production, which comprises administering to the mammal the R(-) enantiomer of desmethylselegiline, or a pharmaceutically acceptable acid addition salt thereof, at a daily dose, administered in a single or multiple dosage regimen, of at least about 0.015 mg, calculated on the basis of the free secondary amine, per kg of the mammal's body weight, wherein the administration of the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof leads to an increase in γ-interferon production in the mammal.

Claim 44. (Previously presented) The method of claim 43, wherein the R(-) enantiomer of desmethylselegiline is in a substantially enantiomerically pure state.

Claim 45. (Previously presented) The method of claim 43, wherein the mammal is a human.

Claim 46. (Previously presented) A method of treating a condition in a mammal produced by immune system dysfunction that is associated with reduced levels of γ-interferon production, which comprises administering to the mammal the R(-) enantiomer of desmethylselegiline, or a pharmaceutically acceptable acid addition salt thereof, wherein the administration of the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof leads to an increase in γ-interferon production in the mammal.

Claim 47. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline is in a substantially enantiomerically pure state.

Claim 48. (Previously presented) The method of claim 46, wherein the mammal is a human.

Claim 49. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered orally.

Claim 50. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered non-orally.

Claim 51. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered parenterally.

Claim 52. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered transdermally.

Claim 53. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered buccally or sublingually.

Claim 54. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered intravenously.

Claim 55. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered subcutaneously.

Claim 56. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline or a pharmaceutically acceptable acid addition salt thereof is administered intra-peritoneally.

Claim 57. (Previously presented) The method of claim 46, wherein the R(-) enantiomer of desmethylselegiline is administered at a daily dose of at least about 0.015 mg/kg of the mammal's body weight, calculated on the basis of the free secondary amine.

Claim 58. (Previously presented) The method of claim 46, wherein the condition produced by immune system dysfunction is caused by infectious disease.

Claim 59. (Previously presented) The method of claim 46, wherein the immune system dysfunction is age-dependent.

Claim 60. (Previously presented) The method of claim 46, wherein the condition produced by immune system dysfunction is AIDS.

Claim 61. (Previously presented) The method of claim 46, wherein the condition produced by immune system dysfunction is cancer.

Claim 62. (Previously presented) The method of claim 46, wherein the condition produced by immune system dysfunction is in response to a vaccine.